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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,559	01/22/2002	Kouji Kuwata	FPM-02801	7197

26339 7590 03/04/2004

PATENT GROUP
CHOATE, HALL & STEWART
EXCHANGE PLACE, 53 STATE STREET
BOSTON, MA 02109

EXAMINER

KORNAKOV, MICHAIL

ART UNIT PAPER NUMBER

1746

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,559

Applicant(s)

KUWATA ET AL.

Examiner

Michael Kornakov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/18/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 3 of the instant disclosure Applicants recite the structural elements of the bonding tool of JP61-144644. However, the reference numbers, provided by Applicants do not correspond to the reference numbers on drawings of JP61-144644. Revision and appropriate correction of this citation is required.

Claim Objections

2. Claim 2 is objected to because of the following informalities: Claim 2 recites "the step of grinding the tip portion of the capillary tube...with at least the tip portion of the capillary tube being **empty**". Apparently, the instant claim recites the grinding step, which is effected prior to inserting a cleaning wire in the tip portion of the capillary tube in subsequent ultrasonic applying step.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential method steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted method step is thrusting the tungsten wire inside the capillary tube, as recited on page 9, lines 7-9 of the instant disclosure.
- The recited in Claim 2 "capillary tube being empty" constitutes an indefinite subject matter as per metes and bounds of such are not readily ascertainable. As per page 9, lines 10-11, the capillary tube at least comprises some clogging. Therefore, for examination it is assumed that the tip portion of the capillary tube is being empty/free of cleaning wire.

Clarifications and appropriate corrections are required.

- Claims 3-5 are rejected because of their dependency and failure to remove ambiguity of the parent claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 5-211195.

JP'195 teaches cleaning a bonding tool, shown on Fig.3, ref. 4 (reads on "capillary

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tube", as instantly recited) by applying ultrasonic vibration to the bonding tool, which is immersed into a cleaning liquid in the cleaning vessel, wherein a covered wire (Fig.3, ref. 14) (reads on "a cleaning wire", as instantly recited) is passed through the bonding tool (Abstract; paragraph, bridging col.2 and 3). Because JP'195 teaches applying ultrasonic vibration, an ultrasonic wave generator for producing such vibration is inherently present in the teaching of JP'195.

Therefore, all the limitations of the instant claims are explicitly or inherently met by JP'195.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5-211195.

While indicating the use of alcohol and the other cleaning media, JP'195 does not specifically indicate material, the covered wire is made of.

However, in order to protect the bonding wire, the skilled artisan would have found obvious to utilize the covered wire, made of conventional materials, which are rigid and highly resistive to corrosion. Tungsten is well known among such materials. Therefore, one skilled in the art would have found obvious to utilize tungsten for covered wire in the teaching of JP'195 with the reasonable expectation of success.

Allowable Subject Matter

11. Claims 2-4 and 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: While teaching cleaning a wire bonding tool with the processing steps, identical

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to those instantly claimed and while providing for the cleaning apparatus with the structural elements, identical to those instantly claimed, JP'195 fails to anticipate or suggest fairly the step of grinding the tip portion prior to providing a covered wire in the tip portion of the bonding tool, followed by ultrasonic vibration. JP'195 also fails to indicate the abrasive sheet as the structural element of cleaning apparatus. No other prior art that anticipates or suggests fairly the combination of processing steps and structural elements, as recited in the instant claims 2-4 and 7, has not been located at the date of this Office Action.

13. Applicant should note that additional prior art cited in PTOL-892 shows the general state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Kornakov

2/25/04

Michael Kornakov
Examiner
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